

Polydoku Game

Name _____

Polydoku Craze Sweeping Nation!

(CPM) - Math enthusiasts around the nation have entered a new puzzle craze involving the multiplication of polynomials. The goal of the game, which enthusiasts have named Polydoku, is to fill in squares so that the multiplication of two polynomials will be completed.

	1	2	3	4	5
A	\times	$2x^3$	$-x^2$	$+3x$	-1
B	$3x$	$6x^4$	$-3x^3$	$9x^2$	$-3x$
C	-2	$-4x^3$	$2x^2$	$-6x$	2

$$6x^4 - 7x^3 + 11x^2 - 9x + 2$$

The game shown at right, for example, represents the

multiplication of $(3x-2)(2x^3-x^2+3x-1) = 6x^4 - 7x^3 + 11x^2 - 9x + 2$.

Most of the squares are blank at the start of the game. While the beginner level provides the factors (in the gray squares), some of the factors are missing in the more advanced levels.

Easy

	1	2	3	4	5
A	\times	$4x^3$	$+6x^2$	$-2x$	-5
B	$2x$				
C	-3				

Result: _____

Medium

	1	2	3	4	5
A	\times			$-2x$	
B	x	$2x^4$			
C	-4		$12x^2$		

Result: $12x$

Hard

	1	2	3	4
A	\times			
B	$2x$			
C	$+5$			

Result: $6x^3 + 7x^2 - 16x + 10$